

CLAIMS

What is claimed is:

1. A thermal plastic expanded foam rectangular meat tray trimmed from a thermal plastic expanded foam web, comprising:

a substantially rectangular bottom wall;

side walls extending upward and outward from the bottom wall integrally interconnected to each other at four corners;

each of the side walls having an inclined lower section and an upper section that extends upward terminating in a lip that extends outward around the periphery of the tray; and

the upper wall section having internal inclined corner surfaces extending upward and outward to the lip at the four corners specifically provided to receive an internal complementary mating corner alignment fixture to maintain the tray accurately aligned at the corners as the tray is being trimmed from the thermal plastic expanded foam web.

2. The thermal plastic expanded foam rectangular meat tray as defined in claim 1 wherein the upper sections of the side walls have inside reinforcing ribs formed therein in which the inclined corner surfaces are indented into the ribs at the corners of the side walls.

3. The thermal plastic expanded foam rectangular meat tray as defined in claim 1 wherein at least one of the inclined corner surfaces

extends upward and outward to the lip at a steep angle of between 94 degrees and 105 degrees relative to the bottom wall.

4. The thermal plastic expanded foam rectangular meat tray as defined in claim 1 wherein at least one of the inclined corner surfaces extends upward and outward to the lip at a steep angle of between 94 degrees and 100 degrees relative to the bottom wall.

5. The thermal plastic expanded foam rectangular meat tray as defined in claim 1 wherein the lower sections of the side walls are inclined upward and outward at an angle of between 110 degrees and 140 degrees relative to the bottom wall.

6. The thermal plastic expanded foam rectangular meat tray as defined in claim 1 wherein at least one of the inclined corner surfaces is curved having an arc of greater than 90 degrees relative to a center of curvature.

7. The thermal plastic expanded foam rectangular meat tray as defined in claim 1 wherein at least one of the inclined corner surfaces is curved and wherein the curved inclined corner surface extends upward and outward to the lip at a steep angle of between 94 degrees and 105 degrees.

8. The thermal plastic expanded foam rectangular meat tray as defined in claim 1 wherein the lower sections of the side walls are inclined upward and outward relative to the bottom wall at an inclined angle of between 110 degrees and 140 degrees and wherein at least one of the inclined corner surfaces is curved and wherein the curved inclined corner surface extends upward and outward to the lip at a steep angle of between 94 degrees and 105 degrees.

9. The thermal plastic expanded foam rectangular meat tray as defined in claim 1 wherein the upper section of the side walls has inside wall surfaces that are ribbed and extend upward and outward between the lower section and the lip at an inclined angle relative to the bottom wall of between 110 and 140 degrees.

10. The thermal plastic expanded foam rectangular meat tray as defined in claim 1 wherein the corner surfaces are conical shaped having a steep angle of between 94 and 105 degrees relative to the bottom wall.

11. A process for severing uncut thermal formed rectangular meat trays with precisely trimmed lips from a thermal plastic expanded foam web in which each meat tray has diagonally opposing steeply inclined interior corner surfaces, comprising:

a. moving the web to place at least one of the rectangular meat trays between a rectangular meat tray punch and a rectangular

meat tray die, in which the rectangular punch has an alignment fixture thereon with complementary steeply inclined exterior alignment surfaces for engaging the steeply inclined interior corner surfaces of the meat trays;

b. moving the punch and die relative to each other a first distance to insert the alignment fixture within the meat tray with the alignment surfaces engaging the diametrically opposed interior corner surfaces of the meat tray to accurately align the meat tray longitudinally, laterally and angularly with respect to the punch and die; and

c. while maintaining the alignment surfaces in engagement with the corner surfaces, moving the punch and die relative to each other a second distance to sever the meat tray from the web with a precisely formed lip about its periphery.

12. A trim apparatus for severing uncut thermal formed rectangular meat trays with precisely trimmed lips from a thermal plastic expanded foam web in which each meat tray has diagonally opposing steeply inclined interior corner surfaces, comprising:

- a. a rectangular meat tray die;
- b. a rectangular meat tray punch opposing the rectangular meat tray die;
- c. an alignment fixture mounted on the punch having complementary exterior alignment corner surfaces thereon for engaging

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the steeply inclined interior corner surfaces of the meat tray to maintain the meat tray in alignment in the longitudinal, lateral and angular directions;

d. placement means for placing an untrimmed meat tray between the punch and die;

e. drive means operatively connected to the die and punch for (1) moving the punch and die relative to each other a first distance to move the alignment fixture into the meat tray with the exterior alignment corner surfaces engaging the steeply inclined corner surfaces of the meat tray to accurately align the meat tray in the longitudinal, lateral and angular directions, and (2) moving a second distance to accurately trim the meat tray from the web with a precisely formed lip about its periphery while the fixture corner surfaces are engaging the tray corner surfaces.

13. The trim apparatus as defined in claim 12 wherein the punch has a face plate and wherein the alignment fixture is mounted on the face plate for movement between an extended position to a retracted position while the punch and die are moved relative to each other.

14. The trim apparatus as defined in claim 12 wherein the alignment fixture has a generally rectangular shape with corner projections extending outwardly with the inclined fixture corner surfaces being formed thereon for engaging the steep inclined corner surfaces of the meat tray.

15. The trim apparatus as defined in claim 12 wherein the fixture corner surfaces are curved and extend downward and inward at an angle of between 75 and 86 degrees relative to the bottom wall of the meat tray.

16. The trim apparatus as defined in claim 14 wherein the corner projections have curved corner surfaces with an arc of greater than 90 degrees about a center of curvature.

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